

**UTAH STATE IMPLEMENTATION PLAN**

**SECTION X**

**VEHICLE INSPECTION  
AND MAINTENANCE PROGRAM**

**PART C**

**SALT LAKE COUNTY**

Adopted by the Utah Air Quality Board  
August 1, 2001

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*July 13, 2001, v*

**SECTION X, PART C**  
**SALT LAKE COUNTY**  
**Appendices**

- 1 Motor Vehicle I/M Program Ordinances
  - 1.a Salt Lake City-County Health Department Health Regulation #22A Governing the Motor Vehicle Emissions Inspection Maintenance Program for the Control of Air Contaminant Emissions from Motor Vehicles, 1996
  - 1.b Salt Lake City-County Board of Health Resolution - Fees
  - 1.c Salt Lake County Commission Resolution #2367, September 18, 1996

**UTAH STATE IMPLEMENTATION PLAN**  
**SECTION X**  
**AUTOMOTIVE INSPECTION AND MAINTENANCE (I/M) PROGRAM**  
**PART C**  
**SALT LAKE COUNTY**

**1. I/M performance standard**

*Technical Support Documentation (TSD), Tab 1: MOBILE5.a input and output files for modeling; demonstration of program effectiveness*

*Federal requirements* EPA's I/M regulation, 40 CFR Part 51, Inspection and Maintenance Program Requirements, last amended at 66 FR 18156, April 5, 2001, specifies a model Basic I/M program. Utah is required by Section 182 of the Clean Air Act to implement an I/M program in Salt Lake County that is at least as effective as the EPA's Basic Performance Standard. The Basic I/M performance standard is specified in 40 CFR 51.352. Regulators are not required to implement the exact elements specified in EPA's model I/M programs. EPA's I/M regulations instead require a performance demonstration that local I/M programs result in automotive emissions equal to or less than predicted for the EPA model I/M program. State and local governments may choose options best suited for their area to meet the performance standard.

*I/M Performance Standard* Salt Lake County began its I/M program in 1984. The I/M program exceeds the Basic I/M performance standard for all pollutants. Salt Lake County was redesignated as attainment for ozone on July 17, 1997 and is not classified for carbon monoxide.

*Salt Lake County I/M program requirements* The Utah Air Quality Board adopted an ozone maintenance plan for Salt Lake and Davis Counties on November 5, 1993. The plan was reorganized and adopted on January 5, 1995. Revisions to the ozone maintenance plan were adopted by the Board on June 5, 1996, and January 7, 1997; EPA approved the plan on July 17, 1997. The ozone maintenance plan required implementation of an improved I/M program no later than January 1, 1998. The ozone maintenance plan established a performance standard for both counties that is more stringent than the federal Basic I/M performance standard. Parts A and C of Section X, together with referenced appendices, demonstrate compliance with the improved IM program for Salt Lake County as specified in Part IX.D.2.g of the Ozone SIP and herein after referenced as Salt Lake County's UTAH98 Program.

*UTAH98 I/M Program MOBILE modeling* The performance standard demonstration made use of EPA's MOBILE model. MOBILE5.a.h was used for the UTAH98 I/M program



performance standard demonstration analysis. The MOBILE5.a.h model is able to calculate emission factors, grams of a particular pollutant per vehicle mile traveled across the fleet in an area (G/VMT), given information about the fleet, climate, fuel characteristics, and I/M programs in a local area. Table X.C.1 summarizes the modeled VOC, CO and NO<sub>x</sub> emission factors specified in Section IX, Part D.2 of the Ozone Maintenance Plan for the UTAH98 I/M program. The modeling demonstrates compliance with both the federal Basic I/M performance standard and the Ozone Maintenance Plan Basic I/M performance standard. Attainment of this performance standard only required I/M emission benefits derived from a test-and-repair network. Subsequent to this demonstration, EPA promulgated Additional Flexibility Amendments to the Vehicle Inspection Maintenance Requirements effective August 23, 2000. This rule change removed the mandatory I/M rule provision establishing the decentralized, test-and-repair network credit discount and permits areas to demonstrate increased I/M program effectiveness of their networks. Future MOBILE modeling of the Salt Lake County I/M program will take advantage of this credit.

SALT LAKE COUNTY UTAH98 I/M PERFORMANCE STANDARD ANALYSIS SUMMARY

pollutant	program modeled	emission factors in grams/mile				
		July 1	1998	2000	2003	2006
VOC	Basic Performance Standard			2.47	2.30	
	UTAH98 Performance Standard		2.09	1.85	1.63	1.47
	UTAH98 Program Target		2.09	1.85	1.63	1.47
NO <sub>x</sub>	No I/M, No ATP			2.38	2.23	
	UTAH98 Performance Standard		2.20	1.96	1.81	1.76
	UTAH98 Program Target		2.20	1.96	1.81	1.76
CO	Basic Performance Standard			18.69		
	UTAH98 Performance Standard		15.46	12.65	10.56	9.29
	UTAH98 Program Target		15.46	12.65	10.56	9.29

TABLE X.C.1

The PM<sub>10</sub> contingency plan adopted on July 1, 1994, requires implementation of an improved I/M program in Davis and Salt Lake Counties if Salt Lake County violates the PM<sub>10</sub> standard. Commitments from the Salt Lake County Commissioners to implement an improved I/M program, as required by the SIP, are in Section IX, Part A, Appendix 1. The improved I/M program can be revised in the future by the Salt Lake County Commissioners as long as the revised program meets all the applicable performance standards documented in the Ozone SIP, Section IX.D.

## 2. Network type

*TSD Tab 2: Letters of opinion from the Utah Attorney General's Office and the Salt Lake County Attorney's offices verifying the authority to implement the specified network in Salt Lake County*

Salt Lake County's I/M program comprises a decentralized, test-and-repair network with approximately 310 stations. The UTAH98 network provides ASM2 tailpipe inspections in a decentralized test-and-repair network for light duty gasoline vehicles. Vehicles exceeding 8500 lbs GVWR and/or with full-time four wheel or all wheel drive undergo a Two-Speed Idle (TSI) inspection. Salt Lake Valley Health Department regulations administering the program are provided in Appendix C.1.

### **3. Tools and resources**

*TSD Tab3: Budgets and descriptions of personnel resources, facilities and equipment*

*Funding mechanisms* Salt Lake County's I/M program is funded through two mechanisms. At the time of registration, a fee of \$3 per car is collected by the Salt Lake County Tax Assessor's Office or Utah Tax Commission Motor Vehicle Customer Service Division. Those monies are remitted to the county and the fees are dedicated to I/M needs. In addition, the County charges fees for various permitting activities. A fee schedule can be found in Appendix C of the Salt Lake City-County Regulation #22A for the UTAH98 I/M program.

*Funding requirements* Salt Lake County will continue to allocate funding as needed to comply with the relevant requirements specified in Utah's SIP; Utah statutes; county regulations and policies; and the federal I/M program regulation. Program budgets will include funding for resources necessary to adequately: manage the program; conduct covert and overt audits, including repairs as specified in Section 13 below; assist and educate inspectors, repair technicians, station owners, and the public; manage, analyze, and report data; ensure compliance with the program by inspectors, stations, and vehicle owners; and evaluate and upgrade the programs.

### **4. Test convenience**

There are approximately 310 I/M stations currently permitted within Salt Lake County. Operating hours are not specified by the county. However, an I/M technician must be available for at least 40 hours per week at facilities open to the public. Some stations that test and service only one type of vehicle are permitted. Also there are government and private fleet permitted stations that are not open to the public.

## 5. Vehicle Coverage

*TSD Tab 4: Sample letter regarding out-of-state exemption.*

*Subject fleet* The Salt Lake County health regulations specify that all model year 1968 and newer model year light duty vehicles, light duty trucks, and heavy duty trucks registered or principally-operated in Salt Lake County are subject to the I/M program except for exempt vehicles. Vehicle coverage is discussed in greater detail in the Salt Lake County health regulations provided in Section X, Part C, Appendices. The data was compiled for the 1990 emissions inventory and has been subjected to a comprehensive quality assurance effort.

*Alternative fuels* Vehicles operated on alternative fuels such as propane, alcohol, and natural gas are also subject to the program. Dual-fueled vehicles are tested twice, once on each fuel.

*Government fleet* Section 41-6-163.6(1)(b) of the Utah Code requires that all vehicles owned or operated in the I/M counties by federal, state, or local government entities comply with the I/M programs. Salt Lake County permits government stations and certifies inspectors to perform I/M inspections. The I/M station permit and inspector certification requirements are the same for government fleets as for private or commercial stations and inspectors. Some government agencies choose to have their vehicles inspected at a commercial I/M station. Salt Lake County requires submittal of a list of subject vehicles and a certificate of compliance or waiver for each vehicle every year.

*Vehicles owned by students and federal employees* Section 41-6-163.3(5) requires universities and colleges located in Utah's I/M areas to require proof of compliance with the I/M program for vehicles which are permitted to park on campus regardless of where the vehicle is registered. Vehicles operated by federal employees and operated on a federal installation located within an I/M program area are also subject to the I/M program regardless of where they are registered. Proof of compliance consists of a current vehicle registration in an I/M program area or an I/M certificate of compliance or waiver, or evidence of exempt vehicle status as specified in this section.

*Rental vehicles* The Salt Lake County I/M health regulations require that vehicles available for rent or use in Salt Lake County are subject to its I/M program. To the extent practicable, all vehicles principally-operated in the county are subject to the I/M program.

*Farm truck exemption* Eligibility for the farm truck exemption from the I/M programs is specified in Section 41-6-163.6(4) and must be verified in writing by Salt Lake County I/M program staff. The owner must sign an affidavit on Utah State Tax Commission form TC-838 that vehicle use will be limited to agricultural activities. A copy of the form is provided in the

Technical Support Document for Section X, Part A. Due to past abuses by vehicle owners, Salt Lake County strictly limits use of the farm truck exemption.

*Diesel vehicle exemption* Diesel vehicles are no longer exempt from I/M. Salt Lake County implemented its diesel I/M program on January 1, 1997 in accordance with Salt Lake County Health Regulation #28.

*New vehicle exemption* Proof that a vehicle is new and being registered for the first time is established by presentation of a Manufacturer's Statement of Origin (MSO) at the time of registration.

*Out-of-state exemption* Vehicles registered in Salt Lake County, but operated out-of-state are eligible for an exemption. The owner must complete Utah State Tax Commission form TC-810 in order to be registered without inspection documentation. The owner must explain why the vehicle is unavailable for inspection in Utah. Common situations include Utah citizens that are military personnel stationed outside of the state, students attending institutions of higher education elsewhere, and people serving missions. If the temporary address of the owner is located within another I/M program area listed on the back of the form, the owner must submit proof of compliance with that I/M program at the time of, and as a condition precedent to, registration or renewal of registration. The vehicle owner must identify their anticipated date of return to the state and is required to have the vehicle inspected within 10 days after the vehicle is back in Utah. Salt Lake County maintains a record of such exemptions and requires submission of an I/M inspection certificate or waiver at the indicated time.

*Exempt vehicles* Motorcycles, farm vehicles and new vehicles being registered for the first time are exempt.

## **6. Test procedures and standards**

*TSD Tab 5: UTAH98 Analyzer specifications.*

*Specifications* Detailed specifications for the I/M test procedures and standards are described in the Salt Lake County health regulations provided in Section X, Part C, Appendices.

*I/M Program test procedure and analyzer* Salt Lake County's I/M program uses the ASM2 test procedure in accordance with EPA-AA-RSPD-IM-96-2, Acceleration Simulation Mode Test Procedures, Emission Standards, Quality Control Requirements, and Equipment Specifications, Technical Guidance. The inspection for vehicles will consist of a loaded-mode Emissions test for concentrations of hydrocarbons (HC), carbon monoxide

(CO), and oxides of nitrogen (NO<sub>x</sub>), a functional inspection of the gas cap and a visual/tampering inspection of the PCV, EGR, AIR and catalytic converter systems. OBDII testing will be performed on 1996 and later model year vehicles in compliance with federal statute. All UTAH98 I/M emissions inspections are performed using the BAR97-compliant UTAH98 Analyzer. The UTAH98 Analyzer calibration specifications and emissions test procedures meet the minimum standards established in above referenced ASM2 Specification. The testing will use a BAR97-compliant dynamometer. Covered vehicles are defined in the Salt Lake Valley Health Department regulations. Gas cap and EGR valve function tests will be included in the UTAH98 program. Full-time and All-wheel four wheel drive and vehicles with a GVWR exceeding 8500 lbs undergo a Two-Speed Idle test unless they are OBD-compliant. All covered vehicles in Salt Lake County are subject to the UTAH98 I/M test procedure which began April 1, 1998.

*Pre-inspection emissions-related repairs* Inspectors in the county's test-and-repair networks are required to perform the emissions test prior to making any emissions-related repairs when a vehicle is presented for an emissions inspection. All inspectors who conduct test-only inspections, are required to ask the vehicle owner or operator whether a tune-up or other emissions-related repairs have been performed within 6 weeks prior to the emissions inspection and to document the owner's response in the UTAH98 I/M computer vehicle information database (VID).

*Safety issues* Vehicles presented in unsafe condition must be repaired before inspection. Vehicles are also subject to an annual safety inspection administered by the Highway Patrol. Submission of proof of compliance with the safety program is also required as a condition for registration or renewal of registration. Most owners in Salt Lake County's test-and-repair network have the safety and emissions inspection performed at the same time. Data relative to the safety inspection can be recorded in the UTAH98 I/M Analyzers. The Salt Lake County I/M program is administered with close cooperation with the Utah Highway Patrol Safety Program. UTAH98 I/M program equipment, including dynamometers, shall be operated in accordance with manufacturer's specifications to prevent injury or damage to people or equipment. Exhaust gases are to be safely ventilated in accordance with EPA-AA-RSPD-IM-96-2.

*Exhaust leaks* The UTAH98 analyzer will reject vehicles with leaking exhaust systems in compliance with EPA-AA-RSPD-IM-96-2.

*UTAH98 I/M program emission standards* The Salt Lake County Health Regulation #22A, Appendix D, includes hydrocarbon, oxides of nitrogen and carbon monoxide emission standards. These emission standards allow for quick adjustment of the standards in case actual failure rates fall below the level specified in the State Implementation Plan. The emission standards for the UTAH98 I/M program were used in the MOBILE5.a.h modeling to

demonstrate compliance with the federal Basic I/M performance standard.

*Stringency* Salt Lake County will adjust tailpipe emission standards as necessary to maintain a stringency rate of at least 22% for pre-81 model year vehicles, the stringency rate used in the UTAH98 I/M performance standard modeling demonstrations.

*Re-test standards* The same test procedure and emission standards are used for initial tests and retests, regardless of which part a vehicle may have failed during an initial test. The UTAH98 I/M test procedure requires an official test, once initiated, to be performed in its entirety regardless of intermediate outcomes, except in the case of invalid test conditions, unsafe conditions, or the fast pass/fail algorithms.

*Anti-tampering provisions* Salt Lake County requires a visual emissions control device inspection to determine whether the air system, catalyst, fuel inlet, exhaust gas recirculation (EGR) valve, evaporative system, positive pressure crankcase valve (PCV), and gas cap are present, appear to be properly connected, and appear to be the correct type for the certified vehicle configuration. Regardless of the vehicle model year, Salt Lake County does not allow waivers for tampered vehicles or money spent to repair tampered or missing emission control devices to be applied towards a minimum waiver cost. Salt Lake County requires repair of catalyst, and air pump system for model year 1984 and newer vehicles. The county requires repair of any tampering of the air system, catalyst, exhaust gas recirculation (EGR) valve, evaporative system, positive pressure crankcase valve (PCV), and gas cap on model year 1990 and newer vehicles. 1996 and newer vehicles also are required to have emission-related malfunction indicator lights (MIL) extinguished.

*Engine changes* The Salt Lake County health regulations have a section that addresses engine changes. After an engine change, vehicles are tested to the tailpipe emission standards and anti-tampering requirements applicable to vehicles of the chassis model year. Mixing vehicle classes (e.g., light-duty with heavy-duty) and certification types (e.g. California with federal) within a single vehicle is considered tampering.

*Fuel switching* Vehicles that are switched to a fuel type for which there is no certified configuration are tested according to the most stringent emission standards for that vehicle model year and vehicle type.

## **7. Test Equipment**

*TSD Tab 5: Technical specifications for the UTAH98 Enhanced I/M Analyzer*

*Analyzer access restrictions* An inspector access code is required to use the analyzer for official tests, a service access code to repair or service the analyzer, and an auditor access

code to access the audit functions. DOS functions are not accessible to station owners, inspectors, or analyzer service personnel. Programming changes are made by Salt Lake County I/M auditors from disks supplied by the analyzer manufacturer.

*Data security provisions* Manual data entry is minimized. For initial inspections, the inspector enters vehicle registration and vehicle information from the keyboard. For retests, the inspector calls up the initial test file, compares the vehicle and owner data, and confirms the VIN/license plate data. Data regarding inspections, analyzer calibration and service, lock-out activities, and audit information are transmitted via phone line to the county every night.

*UTAH98 Automated test procedure* The UTAH98 analyzer automatically reads all test measurements, records test results in the computer database, determines whether the vehicle has passed or failed a test, and prints vehicle inspection reports and inspection certificates for all subject vehicles. The analyzers are capable of simultaneously sampling dual exhaust vehicles. The UTAH98 analyzer will measure carbon monoxide, carbon dioxide, nitric oxide and hydrocarbon emissions. The test procedure is automated to the highest degree practical to minimize the potential for intentional fraud and/or human error in compliance with ASM2.

*Security lockouts* The analyzers are programmed to trigger lock-outs when abuse or tampering occur. Lock-outs occur after any security system is tampered, failure to conduct or pass periodic calibration tests, or the data recording medium is full. The analyzer can not be used until the lock-out has been cleared by a Salt Lake County I/M auditor. The analyzer automatically keeps an electronic record of all lock-outs including the date of the lock-out, the reason for the lock-out, and the date and person that cleared the lock-out.

*UTAH98 I/M certified analyzer use restriction* Since January 1, 1998, Salt Lake County has required official emissions tests to be conducted only on registered UTAH98 I/M analyzers. The UTAH98 I/M analyzer is certified in compliance with BAR97. Updates to the UTAH98 I/M Analyzer specifications may occur, as necessary, to accommodate new technology vehicles and changes to the program.

*UTAH98 I/M certified analyzer design and certification* The UTAH98 analyzer is BAR97 designed and certified. The UTAH98 analyzer performs ASM2 testing in compliance with the Acceleration Simulation Mode Test Procedures, Emission Standards, Quality Control Requirements, and Equipment Specifications Technical Guidance, EPA-AA-RSPD-IM-96-2, July 1996 and 40 CFR 51.358.

## **8. Quality Control**

*General quality control specifications* The UTAH98 analyzer specification was carefully designed to insure that emission measurement equipment is calibrated and maintained

properly, and that inspection, calibration records, and maintenance records are accurately created, recorded, and maintained.

*Automatic electronic quality assurance features* Operational analyzer quality assurance measures such as analyzer calibration, zero and span check, hydrocarbon hang-up check, and leak check are mandatory automatic analyzer capabilities. Gas accuracy tolerances, dilution limits, analyzer warm up requirements, system response time requirements, optical correction factors, and interference effects are also addressed in the analyzer specifications. If the checks are not performed on schedule or identify measurements outside of acceptable limits established in the specifications, a lock-out occurs preventing use of the analyzer until such problems are corrected. Records of all quality assurance activities with respect to the analyzer are automatically recorded in the analyzer's electronic database and evaluated by Salt Lake County I/M auditors on a regular basis. The analyzer specifications discuss requirements for assurance that unauthorized access to the I/M database in the analyzer is prevented. Attempts to deliberately avoid or defeat analyzer or inspection quality assurance provisions result in disciplinary action against the I/M mechanic and/or station. The automatic electronic quality assurance features of the UTAH98 I/M analyzer are in compliance with the referenced ASM2 specification, EPA-AA-RSPD-IM-96-2.

*Analyzer maintenance* The UTAH98 Analyzer specifications describes required services, warranty provisions, and documentation that analyzer manufacturers must provide to customers. It includes ensuring that the analyzer meets the quality assurance specifications at the time of delivery, that routine quarterly preventative maintenance is performed, training on how to use, maintain, and operate the analyzer is provided by the manufacturer, and that if repair of defects can not be made promptly a temporary analyzer replacement is provided. Service activities are recorded in the analyzer's electronic database. Maintenance of the UTAH98 I/M Analyzer is in compliance with the Salt Lake County Health Regulation #22A.

*Document security* Document security for the UTAH98 I/M Analyzer is in compliance with the Salt Lake County Health Regulation #22A.

*Analyzer certification* Sound engineering practices were followed during the design and certification of the UTAH98 analyzer to insure accurate and repeatable inspections under a range of environmental conditions. Manufacturer owner's manuals, operating instructions, and warranty provisions were also reviewed during the certification process. Comprehensive records of the certification process have been maintained.

*General analyzer security provisions* The Salt Lake County Health Regulation #22 requires use of a certified and registered UTAH98 I/M analyzer for official inspections. Inspection records include the analyzer registration number. The regulations make it illegal to alter analyzer software or hardware without written approval. Analyzer calibration requirements, maintenance, and warranty provisions are also specified in the above Salt Lake



County health regulations.

## **9. Waivers**

*Waiver rate* Salt Lake County will take corrective action as needed to maintain a maximum waiver rate of 1% of the initially failed vehicles or the Utah Air Quality Board will revise the SIP and emission reductions claimed based on the actual waiver rate. The conditions for issuing waivers legally authorized and specified in the Salt Lake County health regulations meet the minimum waiver issuance criteria specified in 40 CFR Subpart S 51.360.

*Waiver procedures* The Vehicle Inspection Report (VIR) printed by the I/M analyzer after each inspection and provided to the vehicle owner/operator includes warranty and waiver information, if the vehicle failed the emissions inspection. A waiver document may be issued only by Salt Lake County I/M Technical Center staff and only after verification of required documentation. Any tampered, missing, or inoperable emission control devices must have been replaced or repaired. At least \$100 for 1968 through 1980 model year vehicles and \$200 for 1981 and newer model year vehicles must have been spent on acceptable emission repairs as verified by a Salt Lake County I/M program auditor by physical examination of the vehicle and review of the repair documentation. Repair documentation, such as receipts, are copied and retained by auditor to prevent reuse. Salt Lake County requires signed documentation on official stationery of a business involved in the automotive repair industry to include labor costs. In Salt Lake County, the retest must reflect a reduction of carbon monoxide oxides of nitrogen and/or hydrocarbon emissions after repairs. Emissions defects indicated by On Board Diagnostics II (OBD II) fault codes must be repaired for the vehicle to qualify for a waiver. Vehicles still under the federal emissions warranty are not eligible for a waiver until all warranties are exhausted. Warranted repair and tampering repair may not be applied to the repair cost waiver limits. Waivers are only valid for one test cycle. The vehicle owner surrenders the original waiver document at the time of registration; copies are not accepted for registration purposes. Specific provisions regarding waivers may be found in the Salt Lake County health regulations and the Utah Tax Commission Division of Motor Vehicle policy manual which is available upon request. Salt Lake County does not provide for time extensions to relieve economic hardships in obtaining emission-related repairs.

## **10. Motorist compliance enforcement**

*Registration denial* Salt Lake County's I/M program is enforced by means of registration denial. Vehicle owners must present proof of compliance with the I/M program, a waiver, or evidence of exemption from the I/M program as a condition precedent to vehicle registration or registration renewal. Citations are routinely issued to operators of vehicles with expired or missing license plates during routine traffic stops, parking lot inspections, and roadblocks. As specified in Section 41-1a-1303 of the Utah Code, driving without registration is a Class C

misdemeanor. The penalty for a Class C misdemeanor is imprisonment of no more than 90 days and \$750 for persons or up to \$1000 for corporations, associations, partnerships, or government instrumentalities. In addition to paying a fine, the motorist must register the vehicle. It is currently a Class B misdemeanor to violate a County health regulation. The penalty for a Class B misdemeanor is an imprisonment not exceeding six months and for persons a fine of up to \$1000 or for corporations, associations, partnerships, or government instrumentalities a fine of up to \$5000. In Utah, the magnitude of such penalties is a judicial rather than an administrative decision. Per Section 41-1a-1315 falsification of evidences of title and registration is a second degree felony.

*Certificate of Compliance* The Certificate of Compliance is dated by the I/M analyzer immediately after a passing inspection is completed. The certificate is only valid for registration purposes for two months. At the same time the analyzer also prints the following information on the certificate to ensure unambiguous vehicle identification: the vehicle identification number (VIN), license number, model year, make, and model. A sample of the Certificate of Compliance is in the UTAH98 specifications. The certificates are only printed in the event that the vehicle passed the emissions inspection. Separate documentation, including the same vehicle information, is used for waivers.

*Fuel changes to non-subject status* Vehicle changes that would result in registration changes from a subject to exempt status require physical confirmation by Salt Lake County I/M program personnel at the I/M technical center. Falsification of registration or title information is a felony offense.

*Title transfers* Proof of compliance with the I/M program is required for a title transfer. The system ensures that owners are not able to avoid the program by extending the inspection date through manipulation of the title and registration system.

Salt Lake County I/M program staff, peace officers, and Utah Tax Commission Motor Vehicle Customer Service Division routinely work together to ensure that motor vehicle owners that move into an I/M program area complete registration transfer including compliance with the I/M program. Except for higher education students and active duty military personnel, people are required to register their vehicles in the county in which they are domiciled. As discussed in the Vehicle Coverage section, although these two exempted classes of vehicle owners do not have to register their vehicles in Utah, they do have to comply with the I/M programs. Employment status, maintenance of a residence, enrollment of children in local schools, and voting districts are considered when identifying persons in violation of this requirement.

Salt Lake County I/M program staff work with citizens, the Utah Motor Vehicle Customer Service Division and county attorneys to identify and prosecute people that illegally transfer

registration to a non-subject area to avoid the I/M program. The process is very labor intensive. There are many legitimate reasons to be operating a vehicle in an I/M program area that is registered elsewhere. Violators must be dealt with on a case-by-case basis. Persons caught to date have been subject to fines of around \$700. Those prosecuted and convicted could end up with a criminal record and actual jail time. Fraudulent registration of a motor vehicle is a felony offense. Most people confronted with evidence of their guilt and the seriousness of their offense, to date, have complied promptly. The involved agencies are developing more efficient methods of dealing with illegal registrations that result in exemption from the I/M program.

Salt Lake County is committed to a cooperative aggressive effort to ensure that vehicles operated in the county comply with the I/M program to ensure a compliance rate of at least 96%.

## **11. Motorist compliance enforcement program oversight**

*Utah Tax Commission, tax assessors, and county roles* The Utah Tax Commission Motor Vehicle Customer Service Division and Salt Lake County tax assessor deny application for vehicle registration or renewal of registration without submittal of a valid certificate of compliance, waiver, or verified evidence of exemption. Proof is retained by the tax clerk, micro-photo-copied, and then destroyed. Altered or hand-written documents are not accepted. All certificate data is collected by Salt Lake County I/M program auditors and subjected to scrutiny for evidence of any improprieties.

*Database quality assurance* The vehicle registration database is maintained and quality assured by the Motor Vehicle Customer Service Division. The I/M inspection database is maintained and quality assured by the Salt Lake County I/M program staff. The Salt Lake County I/M program has access to the Motor Vehicle Customer Service Division database and utilize it on a regular basis for quality assurance purposes. The database is subject to regular auditing, cross-referencing, and analysis. The database is also evaluated using data obtained during roadblocks and parking lot surveys. Evidence of program effectiveness problems trigger additional joint enforcement activities.

*Oversight provisions* The oversight program includes verification of exempt vehicle status through inspection, data accuracy through automatic and redundant data entry for most data elements, an audit trail for program documentation to ensure control and tracking of enforcement documents, identification and verification of exemption-triggering changes in registration data, and regular audits of I/M inspection records, I/M program databases, and the Motor Vehicle Customer Service Division database.

*Enforcement staff quality assurance* I/M program auditors and tax clerks involved in

vehicle registration are subject to regular performance audits by their supervisors. All enforcement personnel (direct and indirect) involved in the motorist enforcement program are subject to disciplinary action, additional training, and termination for deviation from procedures. Specific provisions are outlined in the Motor Vehicle Customer Service Division procedures manual which is available upon request.

*Co-operative enforcement oversight effort* The Motor Vehicle Customer Service Division, Utah Division of Air Quality, Utah Highway Patrol and Salt Lake County I/M program staff meet at least once per month to ensure on-going high quality oversight of joint motorist compliance program. EPA audit of this process is authorized if measures to protect tax-payer confidentiality acceptable to Motor Vehicle Customer Service Division are exercised.

## **12. I/M Program quality assurance**

*TSD Tab 6 : Salt Lake County auditor training.*

*Station/inspector audits* Salt Lake County's I/M program regularly audits all certified I/M inspectors and stations to ensure compliance with Salt Lake County health regulations and policies. Particular attention is given to identifying and correcting any fraud or incompetence with respect to vehicle emissions inspections. Compliance with recordkeeping, document security, analyzer maintenance, and program security requirements are scrutinized. The inspector's skill level is also evaluated during audits. Another major purpose of the audits is to retrain inspectors, as necessary, as soon as problems are identified. Documentation sufficient to support a legal case to suspend or revoke a certification is also collected in the event of serious and/or repeated violations. Most stations and inspectors are audited every month and all at least quarterly.

*Covert audits* Salt Lake County, to the extent possible, performs a covert audit of each inspector and station at least once a year. The number of covert audits at least equals the number of certified inspectors. Covert audits are performed using a variety of vehicles that are representative of the subject fleet that are set to fail across a full range of malfunctions. Suspected problem stations and inspectors are targeted for earlier and more frequent audits. Complaints also trigger additional audits.

Covert performance audits shall include:

Remote visual observation of inspector performance, which may include the use of aids such as binoculars or video cameras, at least once per year per inspector in high-volume stations (i.e., those performing more than 4000 tests per year);

Site visits at least once per year per number of certified inspectors (per inspector FTE)

using covert vehicles set to fail (this requirement sets a minimum level of activity not a requirement that each inspector be involved in a covert audit); and  
For stations that conduct both testing and repairs, at least one covert vehicle visit per station per year including purchase of repairs and subsequent retesting if the vehicle is initially failed for tailpipe emissions.

*Electronic audit capabilities* The Salt Lake County I/M program equipment performs various analyses to identify statistically inconsistent data indicative of problem stations and inspectors. Overt audit records are maintained electronically in the analyzer. After overt audits, the auditor retrieves the data on the analyzer diskette containing the audit, vehicle inspection, and analyzer service, maintenance, and calibration records dating back to the previous audit. The data from each audit is added to the comprehensive central Salt Lake County I/M database. Further analysis of the central database results in identification of stations and inspectors for which additional audits are performed.

*Auditor quality assurance* Auditors receive 24 hours of formal classroom instruction and are provided on-the-job training in: the use of the UTAH91 analyzer; the Salt Lake County I/M health regulations, basic air pollution control; basic principles of emissions-related motor vehicle engine repair; emission control systems; evidence gathering; administrative procedures and laws; quality assurance practices; and covert audit procedures. Salt Lake County sends auditors to additional automotive emissions-related training and meetings on a regular basis. Auditor supervisors audit the I/M program auditors by reviewing their documentation and also auditing a number of their stations at least once every year.

*Written audit procedures* Copies of the Salt Lake County I/M program overt and covert audit procedures are provided in Section X, Part C, Appendices. A detailed description of the audit capabilities of the UTAH91 analyzer are found in Section 3.9 of the UTAH98 analyzer specifications.

### **13. Enforcement against stations and inspectors**

*General enforcement provisions* The Salt Lake County I/M program is responsible for enforcement action against incompetent or dishonest stations and inspectors. The Salt Lake County health regulations include a penalty schedule. For serious or repeated offenses, auditors are authorized to immediately suspend the station or inspector by locking out their UTAH98 analyzer. The County does not have legal authority to impose direct fines on stations or inspectors, but suspension or revocation of a station permit results in a substantial loss of income that is far in excess of \$100 fine suggested by the EPA guidance. Fee settlements are at least as much the station's anticipated income for emissions testing for the time during which the station would be suspended. A station permit may be suspended or revoked even if the owner/operator had no direct knowledge of the violation. In the case of

incompetence, re-training is required before the permit is restored.

Salt Lake County revised its penalty schedules to comply with the more stringent specifications included in 40 CFR 51.364; it is found in Appendix E of Salt Lake County Ordinance 22A. At a minimum, inspector certification and station permit suspension shall be imposed for at least 6 months (or a fee retainage or settlement penalty equivalent to the inspector's salary for that period) whenever a vehicle is intentionally improperly passed for any portion of the required test.

*Suspension and revocation* Suspension or revocation effectively bars an individual from further inspections because the auditor removes the inspector's authorization code from the UTAH98 analyzer. Evidence of indirect participation in emissions inspections by an individual while suspended or revoked would result in legal action against the station. If the station is suspended or revoked the analyzer is totally locked-out. The analyzers are initialized by an auditor for use at a single permitted station and only by inspectors certified for that station. A record of the serial numbers of all registered analyzers and their locations is maintained by Salt Lake County.

*Enforcement records* Salt Lake County keeps comprehensive records of all audit activities, warnings, suspensions and revocations, and enforcement activity statistics to the EPA and the executive secretary annually.

## **14. Data collection**

*Analyzer inspection data* The UTAH91 analyzer creates a detailed record of each emissions inspection performed including, but not limited to the following data, for each vehicle tested: test record number; inspection station number; inspector number; test system number; date of the test; emission test start time; the time final emission scores are determined; vehicle identification number (VIN); license plate number; test certificate number; gross vehicle weight rating (GVWR); model year, make, and type of vehicle; number of cylinders or engine displacement; transmission type; odometer reading; category of test performed (i.e., initial, first retest, or subsequent retest); fuel type of the vehicle; emission scores for HC, CO, **NO** and CO<sub>2</sub> at 25 mph and 15 mph; and results (pass/fail/not applicable) for visual inspection of the catalytic convertor, air system, gas cap, evaporative system, and positive crankcase (PCV) valve. The tailpipe emission standards for each type of vehicle is included in a look-up table in the UTAH98 analyzer. The UTAH98 analyzer automatically uses the appropriate standards for the type of vehicle being tested and makes a pass/fail determination. The inspection data is recorded by the UTAH98 analyzer during the inspection procedure.

*Analyzer quality assurance data* Quality assurance data including a detailed history of all calibration (including the concentration values of the calibration gases), service, lockout, and

document security events are also recorded and maintained by the UTAH98 analyzer. Each UTAH98 record includes, as applicable, the station number, mechanic access number, auditor access number, service access number, analyzer serial number, date, and activity time.

*UTAH98 analyzer data collection* The UTAH98 I/M analyzer data collection system meets the requirements specified under 40 CFR 51.365.

## **15. Data analysis and reporting**

*Annual reports* Salt Lake County shall analyze I/M program data and submits annual reports to the U.S. Environmental Protection Agency and the executive secretary upon request. Beginning in July of 1995, Salt Lake County will submit to EPA and the executive secretary an annual report, for January through December of the previous year, which provides statistics on the testing, quality assurance, and enforcement activities of each I/M program. At a minimum the annual reports will include all of the data elements listed 40 CFR Subpart S 51.366.

*Biennial reports* Beginning in July of 1996, and biennially thereafter, Salt Lake County shall submit a report to EPA and the executive secretary discussing all changes made in the program design, funding, personnel levels, procedures, regulations, and legal authority. The report will also supply a detailed discussion of the impact of such changes upon the program, any weaknesses or problems discovered in the program over the previous two-year period, the steps that were taken to address those problems, the result of those corrective actions, and any future efforts planned.

## **16. Inspector training and certification**

*TSD Tab 1.b: Inspector training description and tests*

*Inspector certification and initial training* No person may conduct an official I/M inspection unless they are certified. Salt Lake County requires all persons desiring to become I/M technicians to pass a pretest to insure they have a basic understanding of automotive engine operation and repair. Only about one half of those attempting to become certified pass the pretest and are allowed to take the formal training class. Salt Lake County requires formal training prior to certifying inspectors. Each class includes at least the following information: the causes and effects of air pollution; the purpose, function, and goal of the I/M program; I/M health regulations, policies, and procedures; technical details of the test procedures and the rationale for their design; emission control device function, configuration, and maintenance; quality control procedures and their purposes; public relations; and safety

and health issues related to the I/M inspection process. Salt Lake County provides the training directly. Inspector candidates will not be issued a certificate unless they have passed a written test with at least 80% (or lower if an occupational analysis justifies it) correct responses and a hands-on test during which the trainee demonstrates the ability to properly conduct all test procedures, calibrate the analyzer, properly utilize equipment, and to follow other I/M program requirements. Salt Lake County will take appropriate steps to insure the security of the testing process.

*Inspector certification renewal* Inspector certification is valid for a period of one year, at which point refresher training and testing, are required prior to certification renewal. An auditor enters the inspector's certification expiration date in the analyzer(s) that the inspector is authorized to use. The analyzer locks out the inspector upon expiration of the certification. Auditors will not clear the lock-out until the inspector has renewed the certification. Salt Lake County may require evidence of more comprehensive emissions-related automotive training as a prerequisite to inspector certification renewal.

*Inspector certification suspension and revocation* A determination of inspector incompetence or failure to comply with I/M program requirements may result in suspension or revocation of an inspector's certification prior to the annual expiration date. A certification to conduct I/M inspections is not a legal right but rather a privilege bestowed by Salt Lake County conditional upon adherence to its I/M program requirements.

*Inspector training authority and materials* Authority to require mandatory I/M inspector training is established and described in the Salt Lake County health regulations.

## **17. Public information and consumer protection**

*General public information* Salt Lake County, along with the Utah Department of Environmental Quality, provides a comprehensive public education and protection program including strategies to educate the public on: Utah's air quality problems; ways that people can reduce emissions; the requirements of state and federal law; the role of motor vehicles in the air quality problem; the need for and benefits of a vehicle emissions inspection program; ways to operate and maintain a vehicle in a low-emission condition; how to find a qualified repair technician; and the requirements of the I/M program. Information is provided via direct response to inquiries for information, reports, classes, pamphlets, fairs, school presentations, workshops, news releases, posters, signs, and public meetings.

*Salt Lake County I/M Technical Center* Salt Lake County operates an I/M Technical Center staffed with trained auditors and capable of performing emissions tests. A major function of the I/M technical center is to serve as a referee station to resolve conflicts between certified I/M inspectors, permitted stations, and motorists. Auditors actively protect



consumers against fraud and abuse by inspectors, mechanics, and others involved in the I/M program. Complaints made on a confidential basis are investigated and resolved in a manner that conceals the person's identity to ensure protection of whistle blowers. Auditors advise motorists regarding emissions warranty provisions and assist the owners in obtaining warranty-covered repairs for eligible vehicles. Applications for waivers are evaluated by auditors at the I/M technical center and issued only after visual verification that all the requirements for a waiver have been met. The I/M technical center also provides motorists with information regarding the I/M program, general air pollution issues, and emissions-related automotive repairs.

*Vehicle inspection report* A vehicle inspection report (VIR) is printed and provided to the motorist after each vehicle inspection. The VIR includes a public awareness statement about automotive emissions and lists additional ways that the public can reduce air pollution. The test results are detailed on the VIR. Information about vehicle emissions warranties and the benefits of emissions-related repairs are printed for vehicles that failed the test. Information about waiver requirements and application procedures are printed on the VIR, if the vehicle has failed a retest, including the address and telephone number of the applicable I/M technical center. A complete description of the VIR is included in the UTAH98 analyzer specifications.

*Co-operative public education tools* A variety of pamphlets and radio, television, and newspaper advertisements about automotive air pollution issues are developed and distributed by the Salt Lake County I/M program in cooperation with other I/M counties and the Utah Division of Air Quality.

## **18. Improving repair effectiveness**

*High priority* Salt Lake County implemented a major Basic I/M program revision on September 1, 1991. Shortly thereafter, the Salt Lake County and the Utah Division of Air Quality staff jointly identified improvement of repair effectiveness as a high priority action item. The Governor's Clean Air Commission also recommended making affordable additional emissions-related training available. Full emission reductions will only be realized if the repair industry is able to competently diagnose and repair emissions-related defects.

*Continuing education* To that end, Salt Lake County's I/M staff has worked with Utah's higher education institutions to develop and provide emissions-related automotive technology classes to technicians. Inspectors are also encouraged to take classes offered by trade organizations, automobile manufacturers, and dealers. Salt Lake County subsidizes the tuition for certified I/M inspectors. The certification renewal tests are difficult enough to make this provision a good incentive. The classes are advertised in the county I/M technical bulletins.

*I/M program repair support activities* In initiating improved automotive educational

opportunities, Salt Lake County works on a day-to-day basis to ensure that repair information is available. I/M stations are required to have available up-to-date relevant automotive diagnostic references and tools as a condition for obtaining a permit. Salt Lake County maintains a hot line to its I/M technical center that any mechanic can call for technical assistance related to vehicle inspection, diagnosis, and repair. Technical bulletins are regularly mailed to each certified inspector with information regarding training schedules, common problems found with particular engine families, and diagnostic tips.

#### **19. Improved I/M SIP implementation**

The I/M program health regulations, policies, procedures, and activities specified in this I/M SIP revision have been implemented. Salt Lake County shall continue to implement and operate the I/M program until a maintenance plan without an I/M program is approved by EPA in accordance with Section 175 of the Clean Air Act as amended.